

REMARKS

The foregoing amendment in claim 6 addresses the objection to this claim as a method of manufacture limitation of an apparatus claim element, and therefore not given weight. The amendment presents the subject matter as a definition of the material forming the second resin. This grounds of objection is therefore believed to be overcome.

New claim 18 is added. It is dependent from claim 1 and defines a feature of the elected species 5 shown in Fig. 6, namely, that an outer end portion of lead portion 3 of the lead frame projects outwardly, unsupported, from both the first and second resins. This feature is clearly shown in Fig. 6, and other figures. No new matter is introduced. This feature is not taught by the cited prior art.

Applicant respectfully traverses the rejection of claims 1 and 7-8 under 35 USC 103(a) as obvious over U.S. Patent No. 6,396,082 to Fukasawa et al. ("Fukasawa") in view of JP2002-118270 ("Kanbe"). While not expressly rejected on these same grounds, the Action also appears to reject claim 6, 10 and 11 under 35 USC 103(a) over Fukasawa in view of Kanbe. Applicant also respectfully traverses these rejections.

Fukasawa discloses a light-emitting diode ("LED") that is compact when seated in an insertion hole 42 of a motherboard 41. An LED 29 is sealed by resin 38, together with wires 35, 26 and cathode and anode electrodes 23, 24, which the Examiner equates with the presently claimed mounting frame.

The LED emits light through an overlying transparent resin 27 that fills a hole 25 in a glass epoxy substrate 22. A transparent adhesive 27 secures the LED to the substrate 22 and the transparent resin 27.

The Examiner, at page 3, part 7, lines 13-14 of the Action states that Fukasawa teaches the "second" resin 38 having a coefficient of linear expansion lower than that of the "first" resin 27. Applicant does not find such a teaching. Confusingly, in the next

paragraph the Examiner states Fukasawa does not teach this feature. Instead, the Examiner cites the secondary Kanbe reference JP 2002-118270 as teaching this feature. The Examiner also states that Fukasawa does not teach the claimed mounting portion of a lead frame, which is also confusing as the analysis of Fukasawa in the preceding paragraph, on page 3 of the Action, appears to say the opposite.

Kanbe discloses a conductive pattern 14 that extends in to a “trench” or “slot” 15 in a base 12. The base is described at para. [0018] as a glass. It has a lens 13 formed integrally. A “mold” 16 of a semiconductor epoxy material fills the “slot” 15 overlying portions of the conductive pattern 14 and a chip 21 with a light-receiving part 22.

First, the Kanbe conductive pattern is not the same as Applicant's mounting portion of a lead frame. Second, the light transmitting part of the Kanbe device, the base 12 with lens 13, would correspond to Applicant's light transmitting resin 8. The Kanbe epoxy resin 16 would then correspond to Applicant's sealing resin 2. Applicant claims the coefficient of linear expansion (CLE) of resin 2 has a CLE “lower than those of the first resin [8].” Kanbe paragraph [0018] teaching the opposite. The Kanbe epoxy resin 16 has a higher CTE ($60 \text{ to } 70 \times 10^{-6}/\text{degrees C}$) than the CLE of the glass base 12 ($0.5 \text{ to } 10 \times 10^{-6}/\text{degrees C}$).

The cited prior art therefore does not teach the claimed invention, nor does it suggest or motivate the present invention. As to the claimed CLE relationship, the Kanbe reference cited for this feature teaches directly away. Moreover, Applicant finds no recognition of the present problem (maintaining device integrity under extreme thermal changes), nor any teaching or suggestion of the claimed solution for this technical problem.

Claims 10 and 11 include further limitations as to the mounting portion of the lead frame. As noted above, Applicant does not find a teaching or suggestion of the claimed mounting portion. The cited art refers only to electrodes and conductive patterns.

Applicant also respectfully traverses the rejection of claims 8 and 12 under 35 USC 103(a) as unpatentable over the combination of Fukasawa and Kanbe when further combined with Kameyama et al., US Published Application No. 2004/0188699. Kameyama is cited as teaching a resin with filler. This isolated feature per se is found, in this tertiary reference, but Kameyama does not supply the deficiencies noted above with respect to Fukasawa and Kanbe.

A one-month Petition For Extension of Time to respond, to and including July 28, 2008, is enclosed herewith, together with an authorization to charge the one-month extension fee to Deposit Account No. 04-1105..

In view of the above amendments and Remarks, Applicant urges that the pending claims define patentable differences over the art of record, and that this application is otherwise in condition for allowance.

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Respectfully submitted,

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